

### **REMARKS**

Claims 1-27 are pending. Claims 1, 3, 7, 9, 12, 13, 14, 16, 20, 22, 25 and 26 have been amended.

Paragraph 0001 of the specification has been amended to update the status of the related application. The Abstract has been amended to reduce the number of words to less than 150, as requested by the Examiner.

#### **Telephonic Interview**

The undersigned wishes to thank Examiner Morrison for taking the time to conduct an interview via telephone on December 13, 2006. During the interview, the following points were discussed.

#### **Claim Objections and Rejections under 35 U.S.C. § 112**

Claims 7, 9, 12, 13, 20, 22, 25 and 26 have been amended to address the objections and rejections set forth in paragraphs 3 and 4 of the Office Action. Applicants respectfully request reconsideration in view of these amendments.

#### **Rejection under 35 U.S.C. § 101**

Claims 1-26 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. The Office Action asserts that the claims do not recite “a practice application by producing a physical transformation or producing a useful, concrete, and tangible result.” Applicants respectfully submit that the claimed invention does indeed produce a useful, concrete and tangible result.

Independent claim 1 and its respective dependent claims are directed to a method employed in a database system to enables users to define new aggregates in the system. According to the invention, a user writes program code in a high-level programming language that implements a class that defines the structure of a user-defined aggregate and methods that can be invoked on instances of the user-defined aggregate. According to the method recited in claim 1, the code that implements the class defining the structure of the user-defined aggregate is received by the database system. Then, the system “enforc[es] a

contract against the class so that the code, when executed at runtime, satisfies requirements of the contract to ensure desired execution thereof.” As explained in the specification, “the term ‘contract,’ as used herein and in the claims, refers to a technique that is used at runtime in object-oriented programming environments to check that code to be executed satisfies certain pre-conditions or requirements to ensure that it will execute properly.” Specification, ¶ 29. Claim 1 further recites the specific requirements of the contract that the inventors have developed to ensure proper execution of the user-defined aggregate. Independent claim 14 is directed to a database system that incorporates this same functionality. Both the method of claim 1 and the system of claim 14 produce a useful, concrete, and tangible result.

Specifically, “enforcing a contract” against code that implements a class defining a user-defined aggregate, as recited in both independent claims 1 and 14, produces a useful, concrete, and tangible result. It ensures that the code will execute properly at runtime. If the code does not satisfy the contract, it will not be permitted to execute. Clearly, this is a useful, concrete and tangible result.

Reconsideration of the Section 101 rejection is therefore respectfully requested.

### **Claim Rejections Under 35 U.S.C. §§ 102 and 103**

Claims 1-4, 8-9, 12-17, 21-22 and 25-27 stand rejected under Section 102(b) as being anticipated by Schallehn et al. (hereinafter “Schallehn”), “Advanced Grouping and Aggregation for Data Integration,” Proceedings of the 10<sup>th</sup> International Conference on Information and Knowledge Management, Atlanta, Georgia, Pages: 547-549, Year: 2001, ISBN: 1-58113-436-3. Claims 5-7, 10-11, 18-20 and 23-24 stand rejected under Section 103(a) as being unpatentable over Schallehn in combination with either Kriens (Pat. No. 5,864,862) or Berg (“How Do I Create Persistent Java Objects,” Dr. Dobbs Journal, April 1997, pages 98-101). Reconsideration is respectfully requested.

An important feature of the present invention is the specific “contract” that is enforced against the code that implements the class defining a user-defined aggregate. Both claims 1 and 14 recite the specific contract that is enforced in accordance with the present invention. In particular, both claims 1 and 14 (as amended) recite:

the contract requiring that the class comprise a first method that  
~~can be~~ is invoked to initialize the computation of an instance of

the user-defined aggregate, a second method that ~~can be~~ is invoked to accumulate a plurality of values to be aggregated, and a third method that ~~can be~~ is invoked to compute a final result of the instance of the user-defined aggregate.

It appears from the Office Action that these features of claims 1 and 14 were not given any patentable weight, because they were deemed to be “optional limitations” in view of the use of the phrase “can be” in the recited language. While Applicants do not agree that the use of the words “can be” in the context of claims 1 and 14 renders the recited features optional, Applicants have amended both claims 1 and 14 to replace “can be” with “is” in order to move prosecution forward. Applicants have also amended dependent claims 3 and 16 in the same manner. Applicants submit that these features should be given patentable weight when assessing the patentability of the claimed invention over the cited art. Applicants further submit that the cited art does not teach or suggest these features.

Specifically, neither Schallehn, Kriens, nor Berg teaches or suggests enforcing a contract against code that implements a class defining a user-defined aggregate, where the contract has the specific requirements that are recited in claims 1 and 14. Reconsideration of the Section 102(b) rejection of claims 1 and 14 is therefore respectfully requested. Inasmuch as the remaining claims depend either directly or indirectly from one of these independent claims, Applicants respectfully submit that they too patentably define over the cited art for the same reason.

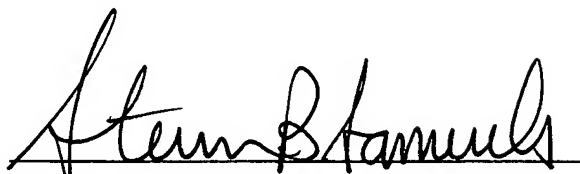
DOCKET NO.: MSFT-3027/307008.01  
Application No.: 10/775,982  
Office Action Dated: October 2, 2006

PATENT

### CONCLUSION

Applicants respectfully submit that the present application is in condition for allowance.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Steven B. Samuels", is written over a horizontal line.

Steven B. Samuels  
Registration No. 37,711

Date: January 2, 2007

Woodcock Washburn LLP  
One Liberty Place - 46th Floor  
Philadelphia PA 19103  
Telephone: (215) 568-3100  
Facsimile: (215) 568-3439